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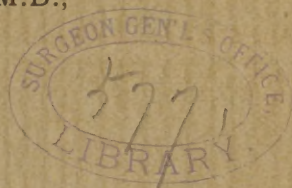
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DISLOCATION FORWARD OF THE HEAD OF
THE ULNA AT THE WRIST-JOINT—
FRACTURE OF THE STYLOID
PROCESS OF THE ULNA.

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DISLOCATION FORWARD OF THE HEAD OF THE ULNA AT THE WRIST-JOINT—FRACTURE OF THE STYLOID PROCESS OF THE ULNA.

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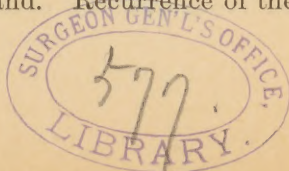
(Read before the Homœopathic Society of the County of Philadelphia, March 11, 1897.)

DISLOCATION of the head of the ulna at the wrist is looked upon by the majority of authorities on the subject as extremely rare. Hamilton, in his work on *Fractures and Dislocations*, says that this accident "without a fracture of the radius is quite rare." Dupuytren saw two cases, and Sir Astley Cooper none that were recorded.

A subluxation of this bone is often found complicating Colles' fracture of the radius, and we are taught to treat such fractures with the hand turned to the ulnar side to overcome the prominence of the ulnar styloid process. Complete dislocation of the head of the ulna can occur in two directions: the backward variety, in which the head of the bone is displaced to the dorsal surface of the wrist, and the forward, in which we have the head protruding into the palm.

Of these two, the backward or dorsal variety is the more common, and is produced usually by extreme pronation, sometimes by direct violence. The synovial membrane or saciform ligament is ruptured, as well as the internal lateral ligament, and the triangular fibro-cartilage. The head of the bone leaves its socket in the side of the radius, and is displaced backward, or backward and outward, or at times backward and inward, so as to overlap the radius, and can be felt protruding in its new position. If we look for the styloid process of the ulna we find it to be no longer in a line with the metacarpal bone of the little finger.

Reduction is accomplished by pressure on the ulnar head, assisted by forcible supination of the hand. Recurrence of the



deformity after pressure is removed occurs in some cases, and is difficult to overcome.

The forward or palmar dislocation is even more rare than the former variety, and is the result generally of violent supination of the hand, or it may also be due to direct violence. The rounded head leaves its articular surface and appears as a projection into the palmar surface of the wrist, the normal prominence of the styloid process on the back of the wrist is gone, and in its place is found a depression into which the tip of the finger can be laid; the breadth of the wrist, moreover, is lessened so that it appears narrower than its fellow.

Reduction is made by pushing the ulna towards its proper position, at the same time flexing the hand, or if this fails then by extension or forced supination with manipulation.

Stimson reports the case of a woman, who had her hand and wrist caught between a dumb-waiter and the edge of its inclosure. The hand, after the accident, was completely supinated and could not be pronated, the normal prominence of the ulna styloid was missing, and in its place was a depression. The head of the ulna was found protruding into the flexor surface of the wrist, while the relations of the radius to the carpus were unchanged. Reduction was easily accomplished by pushing the head of the ulna backward, combined with forced pronation. The dislocation, however, could be easily reproduced by pressing the ulna forward and supinating the wrist. There was a distinct snap when the bone went into place. (*New York Medical Journal*, 1889, vol. xlix.)

Hamilton cites the case of a girl, who had, two years previously, sustained a dislocation at the inferior radio-ulnar joint. When examined by him the head of the ulna became displaced backward in the act of supination, and forward in the act of pronation. (*Fractures and Dislocations*, 1891, page 661.)

The styloid process of the ulna is occasionally broken as a complication of Colles' fracture of the radius. Very rarely the process is broken alone, by direct violence. I have been unable to find any recorded cases of this injury in the medical literature for the past ten years. Hamilton in his work on *Fractures and Dislocations* (page 321) touches on this subject only to speak of its diagnosis and treatment. The injury would be recognized by obtaining abnormal mobility, and perhaps

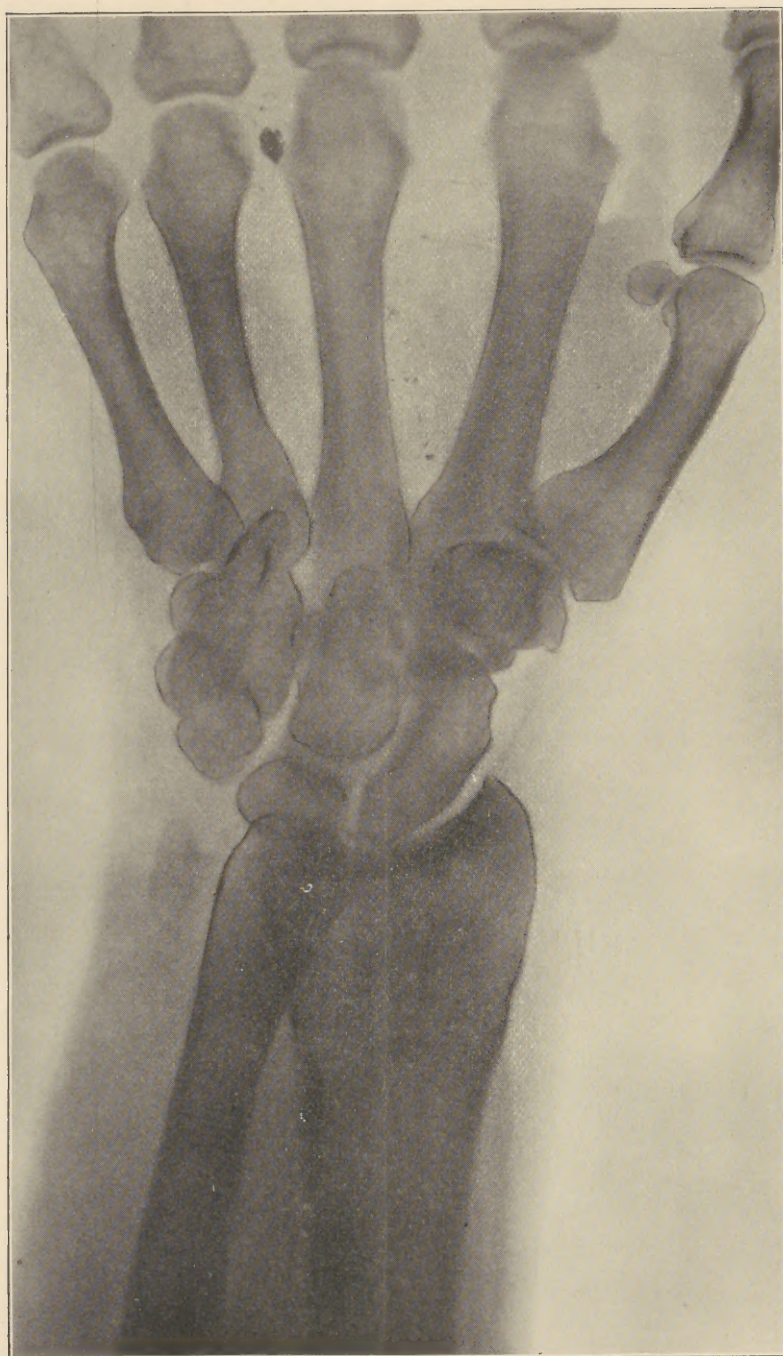


FIG. I.—Skiagraph showing fracture and dislocation.



FIG. II.—Lateral view showing forward displacement of ulna.

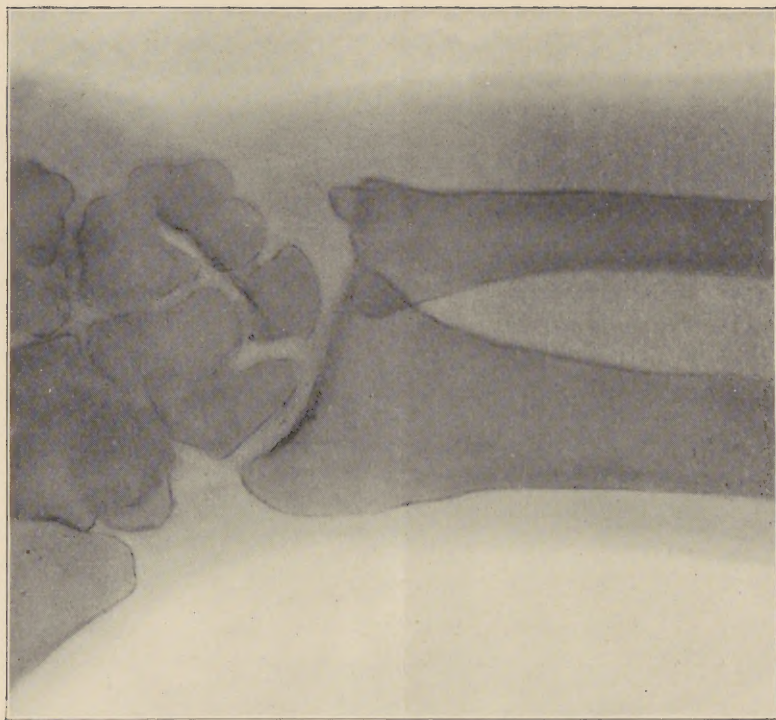


FIG. III.—Showing reduction of fracture, and partial reduction of dislocation.

crepitus, the process being grasped between the thumb and forefinger, together with the history of direct violence. It is best treated with the wrist fixed in a position slightly inclined towards the ulnar side. Union is usually fibrous.

The following case is a good example of the combination of these two rare injuries, it being the only case on record, so far as I can ascertain. It also serves to demonstrate to the medical profession the value of the Roentgen rays.

F. G., a large, muscular man; 44 years of age; applied to the receiving ward of the Hahnemann Hospital, January 6, 1897, for treatment, with the following history:

Some two hours before a heavy freight case fell a distance of a foot or more, striking him on the radial side of the right forearm and wrist, the ulnar side of his hand and forearm at the time resting on the edge of another box. The force of the blow was crushing in character, and supinated the hand violently. When first seen pain was excessive; the hand was fixed in a position between pronation and supination, with the fingers flexed. The swelling was very great, so that it was impossible to make out the position of the bones at the wrist. A splint and compression bandage were accordingly applied, and he was referred to the out-patient orthopedic department. Two days later, when swelling had subsided, the characteristic appearance of a forward dislocation of the ulna was made out, and while attempting reduction bony crepitus was felt. It was thought best under the circumstances to try the X-rays before proceeding further, and a very interesting condition was found. The skiagraph was taken with the hand and arm pronated, and showed that the head of the ulna overlapped the lower outer border of the radius (Fig. I.) Beyond the end of the ulna and distinct from it was a small piece of bone, the "chipped off" styloid process. A side view demonstrated the ulnar head projecting markedly forward. (Fig. II.)

Reduction was accomplished by pushing the ulna back toward its socket and supinating the hand. The deformity, however, recurred as soon as pressure was removed. The best dressing was found to be an anterior right-angled, moulded plaster-of-paris splint, which kept the forearm supinated, and the hand turned slightly to the ulnar side. (Fig. III.)

In this position the head of the ulna was found to be held

fairly well in place, the broken surfaces best approximated, and the patient obtained the greatest degree of comfort.

The dislocation, however, persistently recurred after each attempt at reduction, and one is inclined to believe, in view of the severe nature of the accident, and the enormous swelling of the parts, that the shallow "cup-joint" on the radius was injured to such an extent as to be unable to hold the head of the ulna in place.

At the end of four and a half weeks all dressings were removed and the patient was instructed to use his hand as much as possible, at the same time having passive motion performed daily. Pronation and supination were, however, destroyed. The hand was fixed in a position of moderate supination and practically useless. Two weeks later, there being no improvement, the patient was etherized and an attempt made to break up adhesions. This failed.

On March 8, two months after the accident, the lower end of the ulna was cut down upon, the incision being made on its outer aspect. It was found impossible to replace the head, and therefore this was excised. The styloid process was found united to the shaft by fibrous tissue. There was also a longitudinal fracture or splitting of the head of the ulna. This the Roentgen rays failed to bring out. The two bones were firmly bound together by fibrous tissue, which also filled the joint-surface of the radius and prevented any motion. After excising the head the normal functions of the hand were restored.

The wound healed throughout by first intention, with the exception of a small space at the lower angle, where a capillary drain was inserted. The ultimate result is good; pronation and supination are greatly improved, the constant pain has disappeared, and there is but slight impairment in the strength of the wrist and the hand.

